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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

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jgardner@oblon.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JULIANE KRUSEMANN, MANFRED SIEGLER,
ANDREAS STOHR, and WALTER KURTZ

Appeal 2009-002639
Application 10/529,862[1]
Technology Center 1700

Heard:[2] 19 May 2009
Decided:[3] 26 May 2009

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[1] Application 10/529,862, *Use of Preparations Comprising Pigments and Dyestuffs for the Decorative Colouring of Derived Timber Products*, filed 1 April 2005, as the national stage under 35 U.S.C. § 371 of PCT/EP03/11016, filed 6 October 2003. The benefit of a German application filed 10 October 2002 is claimed under 35 U.S.C. § 119(a). The specification is referred to as the "862 Specification," and is cited as "Spec." The real party in interest is listed as BASF Aktiengesellschaft. (Appeal Brief, filed 21 November 2007 ("Br."), 1.)

[2] The transcript prepared by the Court Reporter, which will be made of record, was not available when this appeal was decided.

[3] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the Decided Date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

Before EDWARD C. KIMLIN, MARK NAGUMO, and MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

NAGUMO, *Administrative Patent Judge*.

DECISION ON APPEAL

A. Introduction

Juliane Krusemann, Manfred Siegler, Andreas Stohr, and Walter Kurtz ("Krusemann") timely appeal under 35 U.S.C. § 134(a) from the final rejection[4] of claims 1-6, 8, 9, 11, and 12, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6. We AFFIRM.

The subject matter on appeal relates to a method of coloring wood based products such as medium- and high-density fiberboard ("MDF" and "HDF," respectively), or chipboard using a colorant comprising pigment and from 0.5 to 10% by weight, based on the pigment, of a dye. The dye is said to "go into the wood fiber" and hide the intrinsic color of the wood, allowing the strong, brilliant hues of the pigments to be exhibited. (Spec. 2, ll. 30-34.) Moreover, the colorants are said to have the superior lightfastness and heatfastness associated with pigments.

[4] Office action mailed 22 March 2007 ("Final Rejection"; cited as "FR").

Representative Claim 1 is reproduced from the Claims Appendix to the Principal Brief on Appeal:

> 1. A method for the decorative coloration of a product selected from the group consisting of MDF, HDF and chipboard, comprising
>
> applying a liquid colorant preparation that comprises
>
> at least one pigment and, based on the pigment,
>
> from 0.5% to 10% by weight of at least one dye to the product.

(Br., Claims App. i; paragraphing and indentation added.)

The Examiner has maintained the following ground of rejection:[5]

> Claims 1-6, 8, 9, 11, and 12 stand rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Thornber[6] and Ortalano.[7]

Krusemann does not argue for the separate patentability of the dependent claims. All arguments not timely raised have been waived. 37 C.F.R. § 41.37(c)(1)(vii). Accordingly, we limit our consideration to argued limitations in claim 1, with which the remaining claims stand or fall.

Krusemann contends that the Examiner failed to show that a person skilled in the art of particleboard, considering Thornber, would look to the paper art (Ortalano) for solutions to problems in coloring particleboard. (Br. 4.) More particularly, Krusemann argues that the composition and chemical properties of derived timber products such as MDF, HDF, and

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[5] Examiner's Answer mailed 9 April 2008. ("Ans.").

[6] William Thornber and Brian Wrangham, *Method of Making Colored Particleboard*, U.S. Patent 3,969,454 (1976).

[7] Darren Mark Ortalano and Christopher Joseph Vissing, *Dye Based Aqueous Pigment Dispersions*, U.S. Patent 6,503,317 B1 (7 January 2003), based on a PCT application filed 28 May 1999.

chipboard, are so different from paper, apart from the raw materials used to make them, that the coloring agents "have to meet totally different requirements depending on the process in which they are to be used." (Br. 5.) Moreover, Krusemann argues that a person skilled in the art would not have derived from Ortalano the use of coloring agents comprising pigment and only 0.5 to 10 wt% of dye based on the pigment. The teachings of Ortalano are said to be too broad (1-50 wt% dye and 1-50 wt% pigment) to suggest the low percentages recited in the appealed claims. (Br. 6.) The closest example, in Krusemann's view, is Ortalano Example 22, which is said to contain 23 wt% dye based on the pigment. According to Krusemann, this is too much dye to conclude that Ortalano contemplates a dye percentage as low as 10 wt% based on pigment (*id.*), which is the upper bound recited in Krusemann's claims. Moreover, Krusemann urges, the amount of 2% dye based on pigment found by the Examiner, "would hardly appear to comply with the requirement of Ortalano et al[.] that the pigment be dispersed in the dye (column 3, lines 47-50)." (*Id.*)

B. Findings of Fact

Findings of fact throughout this Opinion are supported by a preponderance of the evidence of record.

1. According to the 862 Specification, preferred colorant preparations comprise at least one pigment, at least one dye, a dispersant, and water. (Spec. 2, ll. 42-45.)

2. Suitable pigments are said to include C.I. Pigment Orange 5 and 13 (Spec 3, l. 19), C.I. Pigment Red 17, 22, 23, 170, 185, and 210 (*id.* at ll. 22, 25, and 26), C.I. Pigment Blue 15, 15:1, 15:2, 15:3, 15:4, 15:6, and 16 (*id.*

at 4, ll. 43-44), C.I. Pigment Green 7 and 36 (*id.* at l. 45), and C.I. Pigment Black 11 and 7 (*id.* at 5, ll. 27-28 and 30).

3. Suitable dyes are said to be water soluble (Spec. 6, l. 36; 7, l. 36), and although cationic dyes are said to be preferred (*id.* at 6, l. 45), suitable anionic dyes are said to include C.I. Yellow 3 and 36 (*id.* at 7, l. 27-28), C.I. Acid Orange 142 (*id.* at l. 28), C.I. Acid Red 52 (*id.*), and C.I. Acid Blue 9 (*id.* at l. 29).

4. Thornber describes making colored particleboard by using "a substantive dyestuff which absorbs onto the wood resulting in an intensely colored shell and lightly colored core." (Thornber, col. 1, ll. 65-67.)

5. Ortalano describes aqueous based pigment dispersions in which the pigment is dispersed in a dispersant dye in the absence of surfactants or resins. (Ortalano, col. 1, ll. 7-10.)

6. According to Ortalano, aqueous based pigment dispersions "are used in a variety of industrial applications such as the manufacture of printing ink, paint, pulp and paper, coatings, and textiles to provide coloring." (Ortalano, col. 1, ll. 12-16.)

7. Ortalano teaches that "the use of dyes and pigments have generally been mutually exclusive to one another." (Ortalano, col. 2, ll. 60-62; *see also* col. 3, ll. 34-38.)

8. The use of the dye as a dispersant, however, is said to avoid many of the problems associated with surfactants and resins in conventional applications, including foaming, too-low surface tension (for use with inkjet printers), and surfactant-induced discoloration. (Ortalano, col. 1, ll. 51-65; col. 3, l. 65, to col. 4, l. 16.)

9. Ortalano lists, among the acid (anionic) water soluble dyes said to be useful, Acid Yellow 36 (Ortalano, col. 4, l. 30), Acid Orange 142 (*id.* at ll. 35-36), Acid Red 52 (*id.* at l. 41), and Acid Blue 9 (*id.* at l. 46).

10. According to Ortalano, pigments suitable for use in the colorants include C.I. Pigment Black 11 and 7 (Ortalano col. 5, l. 14-15), C.I. Pigment Blue 15, 15:1, 15:2, 15:3, 15:4, 15:6, and 16 (*id.* at ll. 15-18), C.I. Pigment Green 7 and 36 (*id.* at ll. 20-21), C.I. Pigment Orange 5 and 13 (*id.* at ll. 21), C.I. Pigment Red 22, 23, 17, 210, 170, and 185 (*id.* at ll. 26-29).

11. The aqueous based pigments compositions are said to comprise about 1 wt% to about 50 wt% dye, based on the total weight of the composition, preferably about 3 wt% to about 25 wt% dye. (Ortalano, col. 5, ll. 8-12.)

12. The aqueous based pigments compositions are said to comprise about 1 wt% to about 50 wt% pigment, based on the total weight of the composition, preferably about 5 wt% to about 50 wt% pigment. (Ortalano, col. 5, ll. 54-58.)

13. Example 22 is described as containing 26 wt% C.I. Pigment Yellow 14 and about 6 wt% Direct Yellow dye (Ortalano, col. 9, ll. 10-15), or about $(6/26) \times 100 = 23$ wt% dye, based on pigment.

14. The pigment dispersions were jetted through thermal ink jet printers (Ortalano, col. 10, ll. 37-38), used to color pulp paper handsheets (*id.* at ll. 48-51), and applied with a rod on typical copier or ink jet grade paper (*id.* at col. 11, ll. 16-18).

C. Discussion

As the Appellant, Krusemann bears the procedural burden of showing harmful error in the Examiner's rejections. *See, e.g., In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness") (citation and internal quote omitted).

Krusemann's contention that the differing lignin content of wood and paper products is recognized by those skilled in the art to be a critical difference when it comes to coloring wood versus coloring paper products is not supported by citations to pertinent technical literature or testimony from a person skilled in the art. It is, therefore, "mere attorney argument" on the present record, and entitled to little if any weight. In any event, Krusemann's contention that Thornber and Ortalano are directed to nonanalogous arts is belied by Ortalano's disclosure that both cationic and anionic dyes are useful in the disclosed colorants. To the extent that wood and paper products would have been recognized by those skilled in the relevant arts as having distinct chemistries requiring the use of distinct dyes and pigments, we have no difficulty finding that the disclosure that both types of dyes are useful would have led those persons to select appropriate dyes for the substrate at hand. In this regard, we observe that Ortalano describes a number of anionic dyes and a number of pigments as being useful for coloring paper substrates, and that Krusemann includes these same dyes and pigments among its suggested embodiments.

Krusemann's argument that the disclosure of ranges of 1 to 50 wt% for each of dye and pigment does not mean that Ortalano "contemplates

every mathematical combination of these percentages" (Ans. 6) misses the point. If a person having ordinary skill in the art would have perceived that Ortalano did clearly "contemplate" each combination, Ortalano would constitute a description of each combination and would thus provide an anticipation of the dye and pigment combinations recited in claim 1. We do not understand that to be the Examiner's position. Rather, we understand the Examiner to argue that the person having ordinary skill in the art would have had a reasonable expectation of successfully using the low end of the range taught for dyes in combination with the high end of the range taught for pigments. (FR 5-6.) A prima facie case of obviousness requires no more than a reasonable expectation of success. *In re O'Farrell*, 853 F.2d 894, 903-04 (Fed. Cir. 1988). Ortalano's exemplifications of preferred ranges are not by themselves evidence to the contrary. Moreover, as the Federal Circuit has observed in far more complex circumstances involving overlapping ranges for 12-component nickel superalloys,

> [i]n this type of claim, a prima facie case of obviousness arises when the ranges of a claimed composition overlap the ranges disclosed in the prior art. . . . Where 'the claimed ranges are completely encompassed by the prior art, the conclusion [that the claims are prima facie obvious] is even more compelling than in cases of mere overlap.'"

In re Harris, 409 F.3d 1339, 1341 (Fed. Cir. 2005) (*quoting In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003), which also concerns a multi-component nickel superalloy; other citations omitted). On the present record, the encompassing overlap in the far simpler two-component liquid colorant preparation used in the process of appealed claim 1 supports the Examiner's conclusion of prima facie obviousness.

Krusemann's argument that Ortalano would not have suggested the relatively low amount of dye compared to pigment recited in the appealed claims (0.5 to 10 wt% dye, based on pigment), is supported neither by citations to evidence of record, nor by the record itself. In particular, Krusemann, in arguing that Ortalano requires that "the pigment be dispersed in the dye," appears to have misapprehended the teachings of Ortalano regarding the role of the dye as a dispersant *for* a dye. That is, Ortalano uses the dye as a substitute for surfactants, which are said to cause foaming that leads to undesirable discoloration (Ortalano, col. 1, ll. 51-54), or to undesirably low surface tension for inkjet applications (*id.* at ll. 58-62), or to undesirable discoloration (*id.* at ll. 62-65). Krusemann has not shown that Ortalano teaches that low quantities of dye, relative to pigment, cannot or should not be used. *Cf. Para-Ordnance Manufacturing, Inc. v. SGS Importers International, Inc.*, 73 F.3d 1085, 1090 (Fed. Cir. 1995) (to teach away, a reference must state that it "should not" or "cannot" be used in combinations with the other reference). Thus, Krusemann's apparent attempt to show that Ortalano teaches away from using dyes and pigments for wood-based products is not persuasive.

Krusemann's argument that the small amount of dye in the coloring pigment containing coloring agent of the claimed invention is "very surprising and unexpected" (Br. 5, citing Spec. 15, ll. 5-9; *see also* Spec. 2, ll. 34-40) is not supported by evidence commensurate in scope with the claims. The 862 Specification, on which Krusemann relies, provides five chipboards colored by five particular dye/pigment combinations that are described as being "homogeneous, brilliant, [and] lightfast." (Spec. 19.) The absence of comparative Examples limits the probative value of the

subjective descriptions in the 807 Specification, and compromises our ability to weigh the strength of the alleged showings against the Examiner's prima facie case of obviousness.

We conclude that Krusemann has failed to demonstrate reversible error in the Examiner's rejection.

D. Order

We AFFIRM the rejection of claims 1-6, 8, 9, 11, and 12 under 35 U.S.C. § 103(a) in view of the combined teachings of Thornber and Ortalano.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314